

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2000-151977

(43)Date of publication of application : 30.05.2000

(51)Int.Cl. H04N 1/387
B41J 21/00

(21)Application number : 10-323017 (71)Applicant : FUJI XEROX CO LTD
(22)Date of filing : 13.11.1998 (72)Inventor : KATAYAMA TAKUYA
YAMATO KENICHI

(54) IMAGE FORMING DEVICEIMAGE FORMING CONTROLLER AND IMAGE FORMING SYSTEM

(57)Abstract:

PROBLEM TO BE SOLVED: To provide an image forming device that forms an image in a proper page sequence depending on the contents of the image and the direction of paper with the image recorded thereon in the case of printing a booklet to provide the image forming controller and the image forming system.

SOLUTION: A control section 12 decides the page sequence in the case of printing a booklet in response to the information on the direction of an original and the contents of a document or the like fed from a control panel 13. For example when the direction of the original is designated to be lateral the page sequence is decided so that upper binding can be performed. When the direction of the original is longitudinal and the contents of the document are of lateral writing (longitudinal writing) the page sequence is decided as left (right) binding respectively. Then according to the decided page sequence images for every two pages are formed on both sides of each recording medium. Thus a booklet with a desired binding can be obtained.

CLAIMS

[Claim(s)]

[Claim 1] A control means which controls image formation operation while changing into image formation data based on inputted image data Have an image forming means which forms a picture on recorded media according to said image formation data and said control means An image forming device characterized by what page orientation of image data into which page order of a picture which has the function to make every 2 pages each of pictures of image data for two or more pages form in both sides of recorded media to said image forming means and is formed in each recorded media was inputted determines.

[Claim 2] A control means which controls image formation operation while changing into

image formation data based on inputted image dataHave an image forming means which forms a picture on recorded media according to said image formation dataand a selecting means which chooses a direction which files as a booklet recorded media in which a picture was formedand said control meansAn image forming device characterized by what a direction which files a booklet chosen by said selecting means in page order of a picture which has the function to make every 2 pages each of pictures of image data for two or more pages form in both sides of recorded media to said image forming meansand is formed in each recorded media determines.

[Claim 3]A control means which controls image formation operation while changing into image formation data based on inputted image dataHave an image forming means which forms a picture on recorded media according to said image formation dataand a setting means which specifies the contents of image dataand said control meansAn image forming device determining page order of a picture which has the function to make every 2 pages each of pictures of image data for two or more pages form in both sides of recorded media to said image forming meansand is formed in each recorded media according to the contents of image data specified by said setting means.

[Claim 4]A control means which controls image formation operation while changing into image formation data based on inputted image dataHave an image forming means which forms a picture on recorded media according to said image formation dataand an image recognition means which judges the contents of inputted image dataand said control meansIt has the function to make every 2 pages each of pictures of image data for two or more pages form in both sides of recorded media to said image forming meansAn image forming device determining page order of a picture formed in each recorded media according to the contents of image data recognized by said image recognition means.

[Claim 5]The image forming device according to any one of claims 1 to 4wherein said control means notifies a user of page order of a picture formed in each determined recorded media.

[Claim 6]The image forming device according to claim 5 having a verifying means which checks starting formation of a picture by page order of a picture formed in each recorded media notified by said control means.

[Claim 7]In a picture formation controller which controls an image forming device which can form a picture in both sides of recorded media based on image dataWith said image forming devicehave a control means which forms image data for forming a pictureand a selecting means which chooses a direction which files as a booklet recorded media in which a picture was formedand said control meansA picture formation controller characterized by what a direction which files a booklet chosen by said selecting means in page order of a picture which has a function which forms image data which makes every 2 pages each of pictures for two or more pages form in both sides of recorded mediaand is formed in each recorded media determines.

[Claim 8]In a picture formation controller which controls an image forming device which can form a picture in both sides of recorded media based on image dataWith said image forming devicehave a control means which forms image data for forming a pictureand an image recognition means which judges the contents of the picture to formand said control meansA picture formation controller determining page order of a picture which has the function to make image data which makes every 2 pages each of pictures for two or more pages form in both sides of recorded media formand is formed in each recorded media

according to the contents of the picture recognized by said image recognition means.

[Claim 9] In a picture formation controller which controls an image forming device which can form a picture in both sides of recorded media based on image data With said image forming device have a control means which forms image data for forming a picture and said control means A picture formation controller determining page order of a picture which has a function which forms image data which makes every 2 pages each of pictures for two or more pages form in both sides of recorded media and is formed in each recorded media by page orientation of a picture.

[Claim 10] In a picture formation controller which controls an image forming device which can form a picture in both sides of recorded media based on image data With said image forming device have a control means which forms image data for forming a picture and said control means A picture formation controller determining page order of a picture which has a function which forms image data which makes every 2 pages each of pictures for two or more pages form in both sides of recorded media and is formed in each recorded media according to the contents of the picture.

[Claim 11] The picture formation controller according to any one of claims 7 to 10 wherein said control means notifies a user of page order of a picture formed in each determined recorded media.

[Claim 12] The picture formation controller according to claim 11 wherein said control means starts formation of a picture in response to confirmation indication which starts formation of a picture by page order of a picture formed in each recorded media of which a user was notified.

[Claim 13] An image forming means which has a function which forms every 2 pages each of pictures for two or more pages in both sides of recorded media according to image data An image forming device which has an image-formation-order decision means which determines image formation order by page orientation of this picture when forming a picture of every 2 pages each in both sides of recorded media An image forming system providing an image formation control means which sends out image data to this image forming device and said image formation control means's receiving image formation order determined by said image-formation-order decision means and notifying a user of this image formation order.

[Claim 14] An image forming means which has a function which forms every 2 pages each of pictures for two or more pages in both sides of recorded media according to image data An image forming device which has an image-formation-order decision means which determines image formation order as an image recognition means which judges the contents of image data according to the contents of image data judged by said image recognition means when forming a picture of every 2 pages each in both sides of recorded media An image forming system providing an image formation control means which sends out image data to this image forming device and said image formation control means's receiving image formation order determined by said image-formation-order decision means and notifying a user of this image formation order.

[Claim 15] An image forming system comprising:

An image forming device which has a function which forms every 2 pages each of pictures for two or more pages in both sides of recorded media according to image data.

An image formation control means which determines image formation order and sends out this image formation order and image data to said image forming device when using a

function which forms a picture of every 2 pages each in both sides of recorded media.

[Claim 16]The image forming system according to claim 15wherein said image forming device receives said image formation order determined by said image formation control means and notifies a user of it.

[Claim 17]The image forming system according to claim 16wherein said image forming device starts formation of a picture in response to confirmation indication which starts formation of a picture in image formation order of which a user was notified.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention]This invention relates to the image forming devicepicture formation controllerand image forming system which have a function which forms a picture so that every 2 pages each of pictures for two or more pages are made to form in both sides of recorded mediait may bend and a booklet can be formed.

[0002]

[Description of the Prior Art]The booklet is constituted by bending the paper of two or more sheets in piles. For exampleif it is a 4-page bookletthe 4th page will be printed with the 1st page on one side of the paper of one sheetand the 3rd page will be printed on the page [1st] reverse side on the back at the reverse side (the 2nd page and 4th page). And a 4-page booklet is done by bending inside between the 2nd page and the 3rd page. It prints 2 pages at a time to both sides of the paper of two sheets similarlyand an 8-page booklet is done by bending in the center in piles. Thusa booklet can be easily created by forming an every 2 pages picture in both sides of a paperand bending in the center. Howeverwhen creating such a bookletthe picture of two or more pages which do not follow the same field of a paper must be formed.

[0003]As an image forming device which can create such a bookletthere are some which are indicatedfor example to JP7-74920A. In this image forming devicethe printing order of each page is rearranged and an every two or more pages picture is formed in both sides of a paper so that it may become booklet shape in the state where it folded up two or more times. A booklet can be obtained by folding up the paper which printing ended and judging suitably.

[0004]Howeverthe printing method of the booklet indicated in this literature is applicable only to the booklet of the left binding by lateral writing. For examplethe booklet by which vertical writing was carried out to the longwise paper has much right binding as usual. Even if it is lateral writingin the case of an oblong paperthe booklet of upper binding also exists. The difference in the direction of binding by the contents of a document of such lateral writing or vertical writingdirection of longwise and the paper of being oblongetc. was not considered conventionally.

[0005]

[Problem(s) to be Solved by the Invention]While this invention was made in view of the situation mentioned above and determines the direction of binding appropriately according to the contents of the picturethe page orientation of a pictureetc.when a booklet

is constituted from the direction of binding. It aims at providing the image forming device, picture formation controller and image forming system which can form a picture by page order from which a page configuration becomes suitable.

[0006]

[Means for Solving the Problem] When it makes every 2 pages each of pictures for two or more pages form in both sides of recorded media so that this invention can form a booklet. For example, according to page orientation of a picture, the direction of binding of a booklet, the contents of the picture, etc., page order of a picture formed in each recorded media is determined and a picture is formed by the determined page order. A user can specify the contents of the picture, such as vertical writing and lateral writing, for example, or they can be made to recognize by an image recognition means. Since a picture of every 2 pages each is formed in both sides of recorded media by suitable page order of this according to vertical writing, the contents of the picture of lateral writing, page orientation of a picture, the direction of binding, etc., it was suitable for various kinds of documents and a booklet for which a user asks can be obtained easily.

[0007] A user can be notified of determined page order and it can also constitute so that it may check further whether a picture by the page order may be formed to a user. By this image formation in page order for which it does not ask can be prevented.

[0008]

[Embodiment of the Invention] Drawing 1 is an outline line block diagram showing a 1st embodiment of this invention. the inside of a figure and 1 -- an image forming device and 2 -- as for a control panel and 14 an external interface and 12 are [a recording head and 16] internal buses a head controller and 15 a control section and 13 a host device and 11. The image forming device 1 is indirectly connected via the host device 2 director a network. Here, image data shall be sent from the host device 2 as an example.

[0009] The external interface 11 receives the image data sent from the host device 2. Communications control at the time of receiving image data, etc., are performed.

[0010] The control section 12 processes the received image data and changes it into image formation data, such as an image format used when actually forming a picture. The head controller 14 is controlled and it is made to actually print. Especially, the control section 12 has the function to make every 2 pages each of pictures for two or more pages form in both sides of recorded media so that a booklet can be formed. When forming a picture using this function, the page order of the picture formed in each recorded media is determined based on the page orientation of the picture which shows a lengthwise direction or a transverse direction, the contents of the picture which shows vertical writing or lateral writing, the direction of binding of a booklet, etc. At this time, the direction of recorded media, etc., may take into consideration and determine other elements. And by the determined page order, image formation data is generated so that an every 2 pages picture may be formed in both sides of each recorded media. When this image forming device has the function of the recorded media for performing double-side printing of reversal feed control for that reversal, etc., are performed.

[0011] The control panel 13 tells a user about the state of the image forming device 1 or receives various kinds of setting out by a user. For example, it can be set up whether single side printing is performed, double-side printing is performed, or booklet printing is performed. The example shown in drawing 1 shows the example which made selectable direction (page orientation of a picture) of a manuscript, the contents of a document (the

contents of the picture) and the direction of binding as what performs booklet printing. Of course one or the selections of others [**** / accepting two and making it selectable] of these may be added. About each selection a default value can be defined beforehand. A user can also be notified of the page order in the case of booklet printing for which it is opted in the control section 12. In this case it can constitute so that a user can direct that a picture may be formed by the notified page order. It cannot be overemphasized that various kinds of displays about specification of the function of others [this control panel 13] or release and those functions are possible of course. These setting out is performed from this control panel 13 and also the directions from the host device 2 can also perform. [0012] The head controller 14 controls the recording head 15 sends out a printing pulse to the recording head 15 with image formation data at the time of image formation and drives the recording head 15. The movement controls of the recording head 15 may be performed.

[0013] The recording head 15 shows the case where a color picture is formed here and shows the recording head of four colors of cyanogen (C) magenta (M) yellow (Y) and black (K). Of course the composition of the recording head 15 is not limited to this it may comprise one monochromatic recording head and one recording head may comprise a plural color. The number of a recording head is also various. Each recording head 15 forms the picture of each color with a prescribed image formation method. The image formation method is arbitrary.

[0014] The internal bus 16 has connected the external interface 11 the control section 12 the control panel 13 the head controller 14 etc. and it is constituted so that a data transfer may be possible to mutual.

[0015] Next in a 1st embodiment of this invention it is explained by what kind of page order a picture is formed based on some examples. Right binding is used when being used mostly generally is described by the manuscript of the lengthwise direction by lateral writing and the left binding is described by the manuscript of the lengthwise direction in vertical writing again. Upper binding is used when direction of a manuscript is a transverse direction.

[0016] Drawing 2 is an explanatory view of the page order at the time of performing the left binding. The number in a figure shows each page number. When the left binding is specified as a direction of binding from the control panel 13 or when lateral writing is specified as a lengthwise direction and contents of a document as direction of a manuscript page order is determined so that formation of a picture may be performed as shown in drawing 2. Herean 8-page booklet shall be constituted.

[0017] As recorded media a twice as many thing as the size of a picture is used. For example if the size of a picture is B5 lengthwise direction the recorded media of B4 transverse direction will be used. And 12 and a 7 or 8-page picture are first formed in both sides of the recorded media of the 1st sheet. 8 pages and 1 page are put in order and formed in one field (surface) in this order and 2 pages and 7 pages are put in order and formed in the field (rear face) of another side in this order. 6 pages and 3 pages are put in order and formed in one field (surface) of the recorded media of the 2nd sheet in this order and 4 pages and 5 pages are put in order and formed in the field (rear face) of another side in this order. Thus the 8-page booklet of the left binding can be obtained by piling up the recorded media in which the picture was formed in both sides and bending in the center.

[0018]Drawing 3 is an explanatory view of the page order at the time of performing right binding. The number in a figure shows each page number. When right binding is specified as a direction of binding from the control panel 13 or when vertical writing is specified as a lengthwise direction and contents of a document as direction of a manuscript page order is determined so that formation of a picture may be performed as shown in drawing 3. Herean 8-page booklet shall be constituted.

[0019]As recorded media twice as many thing as the size of a picture is used like the case of the left binding. In the case of this right binding compared with the above-mentioned left binding the page recorded on the recorded media of one sheet is the same but those page order differs. First 1 page and 8 pages are put in order and formed in one field (surface) of the recorded media of the 1st sheet in this order and 7 pages and 2 pages are put in order and formed in the field (rear face) of another side in this order. 3 pages and 6 pages are put in order and formed in one field (surface) of the recorded media of the 2nd sheet in this order and 5 pages and 4 pages are put in order and formed in the field (rear face) of another side in this order. Thus the 8-page booklet of right binding can be obtained by piling up the recorded media in which the picture was formed in both sides and bending in the center.

[0020]Drawing 4 is an explanatory view of the page order at the time of performing upper binding. The number in a figure shows each page number. When a transverse direction is chosen from the control panel 13 as direction of a manuscript upper binding is performed in many cases. In this case also when the contents of a document are vertical writing the same page order may be sufficient also as the case of lateral writing. And the page order in that case may be the same as the case of the left binding. However since direction of a manuscript is a transverse direction it is necessary to rotate 90 degrees of the directions of the picture in the case of the left binding shown in drawing 2. By drawing 4 in order to show the rotated picture page number is rotated and shown.

[0021]Although three cases mainly used were shown here even when other specification is performed page order can be determined similarly. As for the method of setting out when the direction of binding presumed from direction of a manuscript or the contents of a document differs from the direction of binding specified by a user it is arbitrary to give priority to a user's specification etc.

[0022]With the deciding method of such page order even when many documents of a page are inputted for example page order can be determined similarly. However when recorded media are bent in pile the portion which shifts with the thickness of recorded media may arise. In order to avoid this it is good to restrict the number of sheets of recorded media straight in piles. For example the number of sheets of recorded media can be restricted to eight sheets and a picture can be formed so that it may become a booklet every 32 pages. In this case for a 100-page document the bunch for the booklets in every eight sheets of 1-32 pages 33-64 pages and 65-96 pages and one 97-100-page sheet are obtained for example. Of course the number of sheets to restrict is arbitrary.

[0023]Thus after determining page order the page order determined from the control panel 13 can be shown to a user. In this case formation of a picture can be started after it does not start formation of a picture but a user directs a start from the control panel 13 until there are directions from a user. After checking whether booklet printing performed from now on is a desired thing by this image formation operation can be made to start. Of course a picture may be formed without performing the check by such a user.

[0024]180 degrees of pictures may have to be rotated depending on direction of recorded media and it may have to form. For example what is necessary is just to form a picture as a graphic display when conveying recorded media for formation of a picture like drawing 2 to a longitudinal direction. However when the transverse direction is conveyed reversed and fed with recorded media top and bottom become reverse and it is fed with the rear face of recorded media. Therefore when forming a picture on the back it is necessary to rotate 180 degrees of pictures for 2 pages.

[0025]I get a user to return and set the rear surface of recorded media in the case of the image forming device which does not have a double-side printing function and what is necessary is just to form a picture on the back in a later only the surface forms a picture altogether for example. At this time it is good to be cautious of the turn that each recorded media which the picture was formed in the surface and discharged lap and to form a picture on the back. For example what is necessary is just to return the rear surface of the bunch of recorded media deposited as it was when the following recorded media lap on the image formation side of recorded media. However for example with the image formation side of recorded media when the following recorded media lap with an opposite hand if the rear surface of the bunch of recorded media is returned the recorded media which finally formed the picture will serve as the top. Therefore in the case of image formation on the back if you perform image formation from the last recorded media it is convenient.

[0026]Drawing 5 is an outline line block diagram showing the modification of a 1st embodiment of this invention. Among a figure the same numerals are given to the same portion as drawing 1 and explanation is omitted. 17 is an image recognition section. In addition to the composition shown in drawing 1 in this modification it has the image recognition section 17. The image recognition section 17 recognizes the contents of the picture for example vertical writing and lateral writing from the inputted image data. Various kinds of well-known identification methods can be used for an identification method.

[0027]The control section 12 determines the page order which forms a picture in the case of booklet printing according to the contents of the picture recognized by the image recognition section 17. For example if it is lateral writing and is the left binding and vertical writing like right binding the direction of binding can be determined and as shown in above-mentioned drawing 2 and drawing 3 according to the direction of binding page order can be determined. Of course with the contents of the picture recognized by the image recognition section 17 direction of a manuscript the direction of binding etc. which a user specifies with the control panel 13 can be taken into consideration and page order can also be determined. Page order may be shown to a user via the control panel 13 and it may constitute so that I may have you point to the start of image formation further.

[0028]Drawing 6 is an outline line block diagram showing a 2nd embodiment of this invention. Among a figure the same numerals are given to the same portion as drawing 1 and explanation is omitted. 18 is a controller part and 21 is a control section. This example shows the example which formed the control section 12 provided in the image forming device 1 in the host device 2. The image forming device 1 receives the image data from the control section 21 of the host device 2 and operates according to control by the controller part 18.

[0029]The function of the control section 21 removes the function of the controller part

18 from the composition of the control section 12 shown in drawing 1. Processing which generates the image data for making every 2 pages each of pictures for two or more pages form in both sides of recorded media is performed so that especially a booklet can be formed. Determine the page order of the picture formed in each recorded media based on the page orientation of the picture which shows a lengthwise direction or a transverse directionthe contents of the picture which shows vertical writing or lateral writingthe direction of binding of a bookletetc. at this timeand by the determined page order. Image data is generated so that an every 2 pages picture may be formed in both sides of each recorded media. And the generated image data is sent out to the image forming device 1. In this control section 21it is realizable about various kinds of functions. It is also possible to perform various kinds of control to the image forming device 1.

[0030]The controller part 18 in the image forming device 1 controls operation of each part in the image forming device 1 according to the directions from the control section 21 in the host device 2. In this examplethe controller part 18 does not perform processing of rearranging the picture of each page in the determination of the page order for booklet printingand the determined order. These processings are performed in the control section 21 of the host device 2. After changing the image data received from the control section 21 in the host device 2 into remaining as it is or the gestalt in which image formation is possiblethe head controller 14 is passed. Control of performing timing control of each part is also performed.

[0031]At this 2nd embodimentthe page order for booklet printing as shown in drawing 2 - drawing 4 is determined by the control section 21 in the host device 2. And the picture for two pages is transmitted to the image forming device 1 as one picture by the determined page order. The image forming device 1 forms a picture as it is according to the image data sent from the host device 2. By thisseven if the image forming device 1 has a function of booklet printingbooklet printing can be performed.

[0032]When determining the page order for booklet printing in the control section 21 in response to specification of direction of the manuscript in which a lengthwise direction or a transverse direction is shownthe contents of a document which show vertical writing or lateral writing or the direction of bindingetc.etc.it can carry out from the input means in the host device 2. Drawing 7 and drawing 8 are the explanatory views of an example of the operation screen in a host device. As for 31the direction selections of a manuscript and 33 are print image screens booklet selections and 32 among a figure. The user can perform various kinds of setting out using an operation screen as shownfor example in drawing 7 and drawing 8. Booklet printing can be directed by choosing "booklet creation" in the booklet selections especially shown in drawing 8. At this timethe direction of binding can be determined in the operation screen shown in drawing 7 according to direction of the manuscript selected by the direction selections 32 of the manuscript. For examplewhat is necessary is just to determine that page order will become upper bindingif the transverse direction is chosen in the direction selections 32 of a manuscript. What is necessary is to choose either right binding or the left bindingand just to determine page order by vertical writing or lateral writingwhen the lengthwise direction is chosen in the direction selections 32 of a manuscript. What is necessary is to perform selection of the contents of a document which show vertical writing or lateral writing from an operation screen as shown in drawing 7 and drawing 8or to form the image recognition section 17 shown in drawing 5 in the host device 2and just to

recognize the contents of a document which show vertical writing or lateral writing by this image recognition section. The direction of binding itself may be constituted so that it can specify from such an operation screen.

[0033] If page order is determined according to the direction of binding the image can be displayed on the print image screen 33 shown in drawing 7. Drawing 9 is an explanatory view of an example of a print image screen. An image if it is upper binding an image if it is right binding an image if it is the left binding for example as shown in drawing 9 (A) as shows drawing 9 (B) again as shows drawing 9 (C) can be displayed on the print image screen 33 respectively. By checking this print image screen the user can check the page order of booklet printing. What is necessary is just to perform the directions which perform image formation when the way of filing depending on which it is displayed may be used.

[0034] Drawing 10 is an outline lineblock diagram showing a 3rd embodiment of this invention. Among a figure the same numerals are given to the same portion as drawing 1 and drawing 6 and explanation is omitted. 19 is an image-formation-order judgment part. This example shows the example which divided the function of the control section 12 in the composition shown in drawing 1 and was shared with the host device 2 and the image forming device 1. The determination of the page order for booklet printing in the control section 21 provided in the host device 2 Generation of the image data according to page order is not performed but the page orientation of the picture which shows a lengthwise direction or a transverse direction the contents of the picture which shows vertical writing or lateral writing etc. are judged and these information is transmitted to an image forming device with image data. What is necessary is just to set up performing booklet printing the page orientation of a picture etc. in an operation screen as shown for example in drawing 7 and drawing 8. Furthermore it may set up in the contents of the picture and still such [direction / of binding] an operation screen. Or an image recognition section may be provided in the host device 2 and may be made to recognize about the contents of the picture.

[0035] The image-formation-order judgment part 19 provided in the image forming device 1 determines the page order in booklet printing based on information including the page orientation etc. of the picture sent from the host device 2. For example when the page orientation of a picture is sideways it is determined that page order will become upper binding. When the page orientation of a picture is longitude if it is vertical writing and is right binding and lateral writing page order will be determined as left binding corresponding to the contents of the picture. The contents of the picture may form the image recognition section 17 in the image forming device 1 as what is necessary is just to use it when sent from the host device 2 and it was shown in drawing 5 and they may make the contents of the picture recognize. When the direction of binding is sent from the host device 2 the information can also be taken into consideration and page order can be determined.

[0036] If page order is determined by the image-formation-order judgment part 19 the determined page order can be transmitted to the control section 21 of the host device 2 and the direction of binding etc. can be notified to the user of the host device 2. By this a user can judge whether page order is a desired thing before starting image formation. When the notified page order is a desired thing a user directs execution of image formation. The control section 21 transmits the start of image formation to the image

forming device 1 gaining the support from this user. Thus it can also constitute so that the image formation in the image forming device 1 may be made to start after the check by a user.

[0037] The controller part 18 rearranges the picture of each page according to the page order determined in the image-formation-order judgment part 19 and it generates the image formation data which can be printed from the image data received from the host device 2 so that an every 2 pages picture may be formed in both sides of each recorded media.

[0038]

[Effect of the Invention] According to this invention booklet printing which is made to form every 2 pages each of pictures for two or more pages in both sides of recorded media and forms a booklet is performed so that clearly from the above explanation. At this time a picture is formed by the page order which determined and determined suitable page order according to the contents of the picture of vertical writing lateral writing etc. the page orientation of the picture which shows a lengthwise direction or a transverse direction etc. It is effective in the ability to provide the image forming device picture formation controller and image forming system which can respond to the various ways of filing by this.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is an outline lineblock diagram showing a 1st embodiment of this invention.

[Drawing 2] It is an explanatory view of the page order at the time of performing the left binding.

[Drawing 3] It is an explanatory view of the page order at the time of performing right binding.

[Drawing 4] It is an explanatory view of the page order at the time of performing upper binding.

[Drawing 5] It is an outline lineblock diagram showing the modification of a 1st embodiment of this invention.

[Drawing 6] It is an outline lineblock diagram showing a 2nd embodiment of this invention.

[Drawing 7] It is an explanatory view of an example of the operation screen in a host device.

[Drawing 8] It is an explanatory view of an example of another operation screen in a host device.

[Drawing 9] It is an explanatory view of an example of a print image screen.

[Drawing 10] It is an outline lineblock diagram showing a 3rd embodiment of this invention.

[Description of Notations]

1 [-- Control section] -- An image forming device 2 -- A host device 11 -- An external interface 12 13 [-- An internal bus 17 -- An image recognition section 18 -- A controller part 19 -- An image-formation-order judgment part 21 -- A control section 31 -- Booklet selections 32 -- The direction selections of a manuscript 33 -- Print image

screen.] -- A control panel14 -- A head controller15 -- A recording head16
